

Are Optimistic Repatriates More Hardy and Resilient?

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INTRODUCTION

Previous research conducted by the RE Mitchell Center for Prisoner of War Studies (REMC) has concluded that optimism proved to be the strongest predictor of health and resilience in a group of Vietnam era Repatriated Prisoners of War (RPWs). Optimism is associated with increased positive psychological health in those afflicted by extreme trauma or illness (Segovia et. al, 2012). In the follow-up study (Segovia et. al, 2015), optimism measured at repatriation was again an excellent predictor of a composite measure of psychological (9 component measures) and physical (9 component measures) health. Further studies measured psychological resilience and individual components of hardiness as a mediating factor, but did not study the relationship of optimism or pessimism on resilience and hardiness. The aim of this study is to exploit whether optimists are more hardy and resilient as compared to a pessimist.

Individuals with generally positive expectations about the likelihood of future successes (i.e. optimists) are likely to persist in their goal oriented efforts. The positive expectancies of optimists lead to more effective problem solving skills with fewer adverse health consequences. Optimistic people persistently pursue difficult performance goals, exert more daily effort to reach personal social and health goals in the face of pain and fatigue and more likely to replace rather than give up goals in the face of physical limitation. Therefore, optimism can increase the odds that a goal will be engaged, pursued, and attained, with positive implications for psychological health. (Affleck, Tennen, Zautra, Urraw, Abeles & Karoly, 2001; Duke, Leventhal, Brownlee, 2002; Solberg Nes, Segerstrom & Sephton, 2005). It has been documented that optimism may be particularly important when an individual is facing stressful event, threatening events, situations in which there is little personal control, or situations that unfold or develop slowly over time (Robinson-Whelen et. al, 1997). In contrast, people with more negative expectations (i.e. pessimists) are likely to disengage from effort. Pessimists tend to view bad events as internal, stable and global. They are more likely to develop depression, to have poor physical health, and to require use of various health care services (Brummett et. al, 2006).

Resilience is conceptualized as a global term that refers to a process by which people bounce back from adversity and reintegrate and ideally grow from the experience. Rubber or clay, for example, can be molded into different shapes. Like these substances, a human can grow and change following exposure to an adverse event or they may simply return to their baseline status. Being resilient indicates that the individual has the human ability to adapt in the face of tragedy, trauma, adversity, hardship, and ongoing significant life stressors. Resilient individuals tend to manifest adaptive behavior, especially with regard to social functioning, morale and somatic health, and are less likely to succumb to

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 05 APR 2016		2. REPORT TYPE		3. DATES COVERED 12-01-2016 to 05-03-2016	
4. TITLE AND SUBTITLE Are Optimistic Repatriates More Hardy and Resilient?			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Saima Raza; Jeffrey Moore; John Albano			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Robert E. Mitchell Center for Prisoner of War Studies, 220 Hovey Road, Pensacola, FL, 32508			8. PERFORMING ORGANIZATION REPORT NUMBER NMOTC-REMC-016		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Navy Medicine Operational Training Center, 220 Hovey Road, Pensacola, FL, 32508			10. SPONSOR/MONITOR'S ACRONYM(S) NMOTC		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Includes tables and figures.					
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15. SUBJECT TERMS Prisoners of war; Resilience; Optimism					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 13	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

illness (O' Connell and Mayo, 1998). Resilient individuals keep working toward goals, identifying meaning or purpose in life, and engaging in activities that provide a sense of purpose and meaning. Regardless of the circumstances, resilient individuals believe that there is hope that things will get better, pain will resolve and resolution will occur. They are determined to achieve a positive outcome. Psychological resilience represents a combination of positive aspects of personality and coping to facilitate recovery associated with life stressors. This type of resilience refers to an individual's capacity to overcome challenges and avoid decompensation, depression, apathy, and other types of negative psychological outcomes (Resnick 2014). At a psychobiological level, systems associated with reward/motivation, fear responsiveness and adaptive social behavior, are each purportedly involved in resilient adaptation (Charney, 2004). These neural mechanisms may predict broader problems, such as cardiovascular stress-related resilience in the face of challenge and/or threat (Seery, 2011).

The personality construct of Hardiness, as defined by Maddi and Khoshaba (1994), may overlap and correlate with resilience, or otherwise mediate the relationship between the various predictors of resilience. Research has demonstrated the principle "hardy attitudes" of commitment, control, and challenge supplement skills associated with coping styles, social interactions and health-promoting practices. People strong in commitment find it interesting and meaningful to stay involved with the people and events around them. Those strong in control believe that if they struggle and try, they may be able to influence the outcomes taking place. People strong in challenge see change as natural and an opportunity to continue to grow. Hardy individuals have been shown to be conscientious and extroverted, with fewer signs of overt psychopathology and a greater ability to derive benefits from stressful life events. Hardiness has even been shown to directly moderate the long-term changes associated with captivity/torture in a sample of Israeli RPWs (Waysman et. al., 2001). In addition, dispositional hardiness and dispositional optimism, although moderately correlated, may differentially mediate the relationship between coping style and the effective coping with stressful situations (Maddi and Hightower, 1999). The buffering effect of hardiness is shown in decreasing mental and physical illness symptoms, whether these be self-reported or more objectively measured. Given prior studies, we propose that optimistic RPWs are more hardy and resilient as compared to pessimistic RPWs and we will evaluate this hypothesis by comparing resilience and hardiness measures obtained from repatriates who score either high (optimists), low (pessimists) or midrange on a concurrently administered measure of optimism.

METHODS

Subjects: The one hundred twenty-eight Vietnam era repatriates who participated in this study are part of a long-term medical follow-up program at the Robert E. Mitchell Center for POW Studies in Pensacola, Florida. This program began in 1973 after these former prisoners of war were released from captivity and each year they are eligible to return to the Center for re-evaluation. The average RPW age at the time of this evaluation was 71.9 years (+/- 5.6) and their age at capture was 29.1 years (+/- 4.8). These RPWs were held captive for an average of 51 months (+/- 32.4) and spent an average of 26.5 weeks (+/- 36.4) in solitary confinement. Using a 25-item (0 to 75) torture scale that was administered

as part of this re-evaluation (see Table 1), their average torture severity rating was 26.8 (+/- 11.7) and their average percent weight loss during captivity was 25.1% (+/- 11.3). The vast majority of these RPWs were Caucasian (97.7%), married (93%) and officers (93%). Two measures of psychological resilience, one measure of hardiness, and one measure of optimism were completed by the RPWs as part of an extensive two-day medical and psychological examination that was both similar to their previous annual REMC evaluations and offered additional assessments as approved by a US Navy Institutional Review Board (Segovia et.al, 2015). Each RPW received funding for their travel and per diem costs, and each consented to participate in both the continued medical follow-up program and this unique project.

Measures: The Bond Ego Resilience Scale (ER89; Block and Kremen, 1996) is a 14-item Likert-type scale, with each item rating from 1 “Does not apply at all” to 4 “Applies very strongly.” Possible scores therefore range from 14 to 56. The published internal consistency of the Bond Ego Resilience Scale is 0.76 as measured by Chronbach’s alpha; and the internal consistency within the current sample was 0.78. As originally developed, high scores on this scale were associated with Dispositional resilience. Such individuals exhibit relatively enduring positive affect, openness to experience, motivational control, and resourceful adaptation as core features of their personality.

The Connor-Davidson Resilience Scale (CD-RISC10; Campbell-Sills and Stein, 2007) is a 10-item Likert-type scale, with each item rating from 0 “Not at all true” to 4 “True nearly all the time.” Possible scores therefore range from 0 to 40. The published internal consistency of the CR-RISC10 is 0.85 as measured by Chronbach’s alpha, and the internal consistency within the current sample was 0.86. As originally developed (Connor and Davidson, 2003), this scale was designed to identify those individuals who were most likely to “bounce back” from physical or emotional difficulties as a result of successful stress-coping abilities following traumatic events. During test development, items were selected in such a way as to reflect hardiness, action orientation, self-confidence, adaptability to change, humor, and secure/stable emotional bonds. Scores on this instrument have demonstrated specific sensitivity to depression (Vahia et. al, 2010), PTSD (New et. al, 2009), positive/negative affect before military deployment (Maguen et. al, 2008) and response to treatment of trauma-related stress (Davidson et. al, 2005). The CD-RISC10 may be more state-like and the ER89 may be more trait-like in their measurement of resilience.

The Personal Views Survey, revised third edition (PVS-IIIIR; Maddi et al., 2006) is an 18-item Likert-type scale, with each item rating from 0 “Not at all true” to 3 “Very true”, with some items being reverse scored. Possible scores therefore range from 0 to 54. In addition to the Total Score, separate scores are available for six-item subscales associated with Commitment (seeing the big picture), Control (internal tenacity when dealing with life’s stressors) and Challenge (stresses not viewed as catastrophes). The published internal consistency of the Personal Views Survey is 0.80 as measured by Chronbach’s alpha; and, the internal consistency within the current sample was 0.67. As originally developed, personality trait Hardiness was defined as a stable disposition, felt to be separate from negative affectivity and neuroticism in predicting adaptability. These hardy attitudes are part of a larger Hardiness Model (Maddi, 2004) that also includes hardy coping skill, hardy social support and hardy health practices.

The measure of dispositional optimism used in this study was the Life Orientation Test, revised edition (LOT-R; Scheier, Carver & Bridges, 1994), a 10-item Likert-type measure of positive outcome expectancies. Three items are worded positively, three items are worded negatively (reverse scored), and there are four, non-scored filler items. Possible scores on this measure range from 0 to 24, with higher scores indicating more optimism. The published internal consistency of the LOT-R is 0.0.78 as measured by Chronbach's alpha, and the internal consistency within the current sample was also 0.78. Dispositional optimism appears to be related to health-promoting behavior, positive physiological effect of coping, and better social support (Carver & Scheier, 2014). In addition, higher LOT-R scores among older veterans have been associated with both lower loneliness (Kuwert, Knaevelsrud & Pietrzak, 2014) and more successful aging when combined with other protective psychosocial variables (Pietrzak et. al., 2014).

Statistics: The LOT-R groups of approximately equal size were created by examining the overall LOT-R distribution. Subjects with the lowest scores ($n = 40$; LOT-R, 8 through 18; mean = 15.15) were assigned to the Pessimist group and subjects with the highest scores ($n = 48$; LOT-R, 22 through 24; mean = 23.23) were assigned to the Optimist group. There were also 40 subjects in the intermediate (middle) group (LOT-R, 19 through 21; mean = 20.08). Each ANOVA assumption was assessed following this tertile separation. There were no significantly skewed distributions, no outliers, and the ratio of the largest sample size (48) to the smallest sample size (40) was well below the recommended cut-score. Transformations were not required. The assumption regarding independence of error terms was also met. The assumption regarding homogeneity of variance was evaluated using the F_{MAX} and Levene tests. Although the results of the F_{MAX} were well below the established cut-score, the Levene statistic was statistically significant for each of the three analyses ($0.032 < p < 0.048$). In view of these conflicting results, the decision was made report both the standard F test using the Tukey post-hoc test, as well as the Welch test using the Games-Howell test for pair-wise post-hoc analyses. Linear trend analyses were also performed across the three levels of the independent variable for each of the three dependent variables.

RESULTS

The descriptive statistics and inter-scale correlations are presented in Table1 and Table 2, respectively. On average, Optimists score five to seven points higher than Pessimists on each dependent variable, with pooled standard deviations in the four- to five-point range. All inter-scale correlations were highly significant, with LOT-R sharing from 18.3% to 29.4% of the dependent variable variances. The largest r^2 was between the two resilience measures (ER89 and CD-RISC10 – 49.7%).

As shown in Table 3, statistically significant results were obtained using both the standard F Test and the robust Welch Test. Analysis of variance demonstrated that the differences between the three LOT-R groups on the three dependent variables (ER89, CD-RISC10 and PVSIII-R) were reliable and rather large (see η^2 and ω^2). Post-hoc analysis was utilized for all pairwise comparisons and the results of both Tukey and Games-Howell tests were identical. Not only were all pairwise comparisons statistically significant, all effect sizes (Cohen's d) for group difference were in the moderate to large

range (Table 4). The average effect size for the difference between Pessimists and Optimists was approximately one standard deviation. The linear trends were highly significant for each dependent variable (Table 3), while higher order quadratic trends were nonsignificant. These three linear relationships are also demonstrated in Figure 1.

DISCUSSION

Optimists do indeed describe themselves as more hardy and resilient than pessimists. There was a robust linear relationship within the hardiness measure and both resilience measures that persisted despite the separation of the continuous optimism score into tertile. The effect sizes, however, were not large and there was overlap on each of the outcome measures across the distinct optimism groups. Nevertheless, repatriates whose approach to life includes the expectancy of positive outcomes are more likely to bounce back following setbacks, see problems as challenges rather than catastrophes and engage in active problem solving.

Optimism, resilience and hardiness are key factors in successful aging, life satisfaction and optimal performance during stressful situations. Stable levels of optimism, resilience and psychological well-being, when combined with the absence of depression, appear to counteract declining physical health in the prediction of successful aging (Jeste et al., 2013). Recent research (Cohn et al., 2015) has shown that positive emotions appear to increase life satisfaction by building resources that facilitate rebounding from challenging situations, by warding off depression and by broadening an individual's "thought-action repertoire." Resilience includes adaptability following specific trauma/stress, as well as long-term personality growth associated with assimilation and accommodation. The resiliency measures used in this study also relate to the components of the five-factor model of personality (Farkas & Orosz, 2015), with stability/control (conscientiousness, agreeableness and neuroticism) correlating with different factors than elasticity/adaptability (openness to experience and extraversion). The "Hardy-Resilient Personality Style" is especially relevant in the context of current highly stressful military operations, where resilience is seen as describing the "what" component, the three hardiness components describing the "why" component. It has been shown that the most hardy soldiers show the fewest PTSD symptoms following high stress (fifty percent fewer symptoms than the low hardy soldiers). It has also been shown that military leaders can effectively increase unit hardiness by building the individual soldier's sense of control, commitment and challenge.

Several study limitations were noted. First, our rather small sample includes only older adult men who have suffered the hardships and traumatic stress associated with being prisoners of war many years ago. Although these results may not generalize to other samples with more recent and very different stressors, the observed effect sizes strongly suggest that optimists and pessimists reliably differ with respect to hardiness and resilience. Second, since all measures were administered concurrently, other variables, such as positive emotion and impression management, may have inflated each of the self-report measures used in this study and decreased score variability. Finally, the conclusion that dispositional optimism affects hardiness and resilience is likewise limited by the concurrent measurement of all three constructs. If dispositional optimism is a stable trait, optimism measured

earlier in life should predict hardiness and resilience years later. Future studies using both positive emotion as a covariate to control impression management and a measure of optimism obtained in midlife should help clarify some of these limitations.

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Table 1
Descriptive Statistics

PVS-III R	n	Mean	StDev
Pessimists	40	35.48	5.80
Middle	40	39.93	4.17
Optimists	48	42.54	5.30
ER89	n	Mean	StDev
Pessimists	40	43.40	5.22
Middle	40	45.95	3.73
Optimists	48	48.42	4.47
CDRISC-10	n	Mean	StDev
Pessimists	40	30.90	4.81
Middle	40	33.93	4.16
Optimists	48	36.31	3.05

Table 2
Correlations

	PVSIII-R	ER89	CDRISC-10	LOT-R
PVSIII-R	1.000	-	-	-
ER89	0.615	1.000	-	-
CDRISC-10	0.631	0.705	1.000	-
LOT-R	0.542	0.428	0.534	1.000

all p-values < 0.001

Table 3
Analysis of Variance

PVS-IIIIR	F	df	p	eta ²	omega ²
Oneway	20.728	2, 125	< 0.001	0.249	0.236
Welch (robust)	17.391	2, 81.278	< 0.001		
Linear Trend	41.088	1, 125	< 0.001		
Quadratic Trend	0.869	1, 125	0.353		
ER89	F	df	p	eta ²	omega ²
Oneway	13.518	2, 125	< 0.001	0.178	0.164
Welch (robust)	11.646	2, 80.918	< 0.001		
Linear Trend	26.989	1, 125	< 0.001		
Quadratic Trend	0.002	1, 125	0.961		
CDRISC-10	F	df	p	eta ²	omega ²
Oneway	19.813	2, 125	< 0.001	0.241	0.227
Welch (robust)	19.676	2, 73.375	< 0.001		
Linear Trend	39.617	1, 125	< 0.001		
Quadratic Trend	0.173	1, 125	0.678		

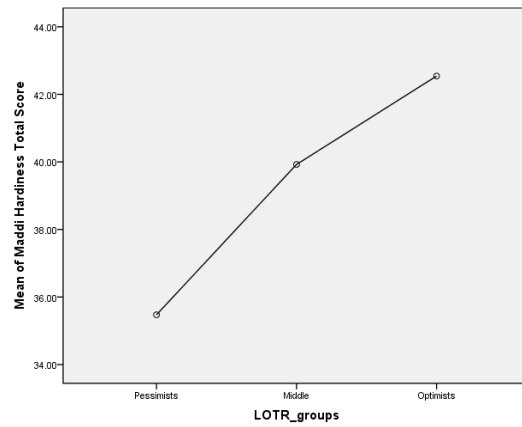
Table 4
Post-Hoc Analysis
Mean Pairwise Differences (Cohen'
d)

PVS-IIIIR		Pessimists	Middle	Optimists
	Pessimists			
	Middle	-4.45 (-0.81)		
	Optimists	-7.06 (-1.08)	-2.61 (-0.53)	
ER89		Pessimists	Middle	Optimists
	Pessimists			
	Middle	-2.55 (-0.54)		
	Optimists	-5.02 (-0.93)	-2.47 (-.57)	
CDRISC-10		Pessimists	Middle	Optimists
	Pessimists			
	Middle	-3.03 (-0.64)		
	Optimists	-5.41 (-1.13)	-2.38 (-0.63)	

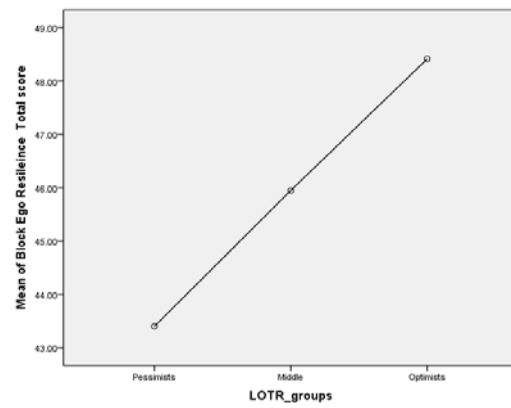
All pairwise differences were statistically significant
using both Tukey HSD and Games-Howell procedures

Figure 1

a. PVSIII-R



b. ER89



c. CDRISC-10

